

CLAIM AMENDMENTS

Claim 1 (currently amended): An ATM Packet Access Gateway (ATM PAG) system for managing an ATM bearer path between ATM endpoints, comprising:

an ATM PAG;

a first ATM bearer connection termination in said ATM PAG for terminating a first bearer connection with a first ATM endpoint;

a first address associated with said ATM PAG for said first ATM bearer connection;

a second ATM connection termination in said ATM PAG for terminating a second bearer connection with a second ATM endpoint;

a second address associated with said ATM PAG for said second ATM bearer connection;

a call control entity associated with said ATM PAG for communicating call control instructions to said ATM PAG, said call control instructions including instructions for logically concatenating said connections into an active ATM bearer path extending between said first ATM endpoint and said second ATM endpoint;

a Media Access Gateway (MAG) in said ATM PAG for controlling the establishment of said first and second bearer connections;

an ATM switch in said ATM PAG for establishing said first and second bearer connections and moving bearer traffic ATM packet payloads over said active ATM bearer path; and

said MAG and said ATM switch being adapted to cooperate in the logical concatenation of said first and second bearer connections and the formation of said active ATM bearer path.

Claim 2 (original): A system in accordance with Claim 1 wherein said MAG and said ATM switch are co-located on a common integrated computer hardware platform and communicate via an internal interface to logically concatenate said connections.

Claim 3 (original): A system in accordance with Claim 1 wherein said MAG and said ATM switch are located on separate computer hardware platforms and communicate via an external interface to logically concatenate said connections.

Claim 4 (original): A system in accordance with Claim 3 wherein said external interface comprises UNI proxy signaling.

Claim 5 (original): A system in accordance with Claim 3 wherein said external interface comprises an application programming interface.

Claim 6 (original): A system in accordance with Claim 1 wherein said ATM switch is adapted to move bearer traffic ATM packet payloads between said first ATM endpoint to said second ATM endpoint by:

receiving a bearer traffic ATM packet over said first or second bearer connections;
determining from the packet header of said bearer traffic ATM packet that said packet should be directed to said first or second ATM endpoints; and
forwarding said bearer traffic ATM packet to said first or second ATM endpoints over said first or second bearer connections.

Claim 7 (original): A system in accordance with Claim 1 wherein said system includes an ATM Line Access Gateway (LAG) terminating plural TDM lines, an ATM Trunk Access Gateway (TAG) terminating plural TDM trunks, and an ATM Access Network interconnecting said ATM PAG, said LAG and said TAG.

Claim 8 (original): A system in accordance with Claim 3 wherein said system further includes one or more resource servers, interworking gateways, interworking units, or data termination systems.

Claim 9 (original): A system in accordance with Claim 1 wherein said system includes more than one ATM PAG and an ATM Access Network interconnecting said ATM PAGs.

Claim 10 (original): A system in accordance with Claim 1 wherein ATM signaling messages to/from said PAG are intercepted by said ATM switch and forwarded to/from said MAG.

Claim 11 (currently amended): A method for managing an ATM bearer path between ATM endpoints, comprising the steps of:

terminating a first ATM bearer connection with a first ATM endpoint;

said termination of said first ATM bearer connection being associated with a first address;

terminating a second ATM bearer connection with a second ATM endpoint;

said termination of said second ATM bearer connection being associated with a second address;

logically concatenating said first and second bearer connections into an active ATM bearer path extending between said first ATM endpoint and said second ATM endpoint; and

moving bearer traffic ATM packet payloads over said active ATM bearer path.

Claim 12 (original): A method in accordance with Claim 11 wherein said moving step includes moving bearer traffic ATM packet payloads between said first ATM endpoint and said second ATM endpoint by:

receiving a bearer traffic ATM packet over said first or second bearer connections;

determining from the packet header of said bearer traffic ATM packet that said packet should be directed to said first or second ATM endpoints; and

forwarding said bearer traffic ATM packet to said first or second ATM endpoints over said first or second bearer connections.

Claim 13 (original): A method in accordance with Claim 11 including terminating plural TDM lines at a Line Access Gateway (LAG), terminating plural TDM trunks at a Trunk Access Gateway (TAG), and interconnecting said ATM PAG, said LAG and said TAG via an ATM Access Network.

Claim 14 (currently amended): A method in accordance with Claim 13 further including providing a common call control entity for said ATM PAG, said LAG and said TAG.

Claim 15 (original): A method in accordance with Claim 12 further including connecting one or more of ATM PAG, said LAG and said TAG to one or more resource servers, interworking gateways, interworking units, or data termination systems.

Claim 16 (original): A method in accordance with Claim 12 further including connecting more than one ATM PAG via a shared ATM Access Network.

Claim 17 (original): A method in accordance with Claim 11 wherein said concatenation step includes using proxy signaling.

Claim 18 (original): A method in accordance with Claim 11 wherein said concatenation step includes using an application programming interface.

Claim 19 (original): A method in accordance with Claim 11 wherein said concatenation step includes using an internal interface.

Claim 20 (original): A method in accordance with Claim 11 further including intercepting signaling messages to and from said ATM endpoints.

Claim 21 (currently amended): A computer program product for managing an ATM bearer path between ATM endpoints, comprising:

one or more data storage media;

program means recorded on said one or more data storage media for:

terminating a first ATM bearer connection with a first ATM endpoint;

said termination of said first ATM bearer connection being associated with a first address;

terminating a second ATM bearer connection with a second ATM endpoint;

said termination of said second ATM bearer connection being associated with a first address;

logically concatenating said first and second bearer connections into an active ATM bearer path extending between said first ATM endpoint and said second ATM endpoint; and

moving bearer traffic ATM packet payloads over said active ATM bearer path.

Claim 22 (original): A program product in accordance with Claim 21 wherein said program means includes means for moving bearer traffic ATM packet payloads between said first ATM endpoint and said second ATM endpoint by:

receiving a bearer traffic ATM packet over said first or second bearer connections;

determining from the packet header of said bearer traffic ATM packet that said packet should be directed to said first or second ATM endpoints; and

forwarding said bearer traffic ATM packet to said first or second ATM endpoints over said first or second bearer connections.

Claim 23 (currently amended): A program product in accordance with Claim 21 further including program means for terminating plural TDM lines at a Line Access Gateway (LAG), terminating plural TDM trunks at a Trunk Access Gateway (TAG), and interconnecting said ATM PAG, said LAG and said TAG via an ATM Access Network.

Claim 24 (currently amended): A program product in accordance with Claim 21 further including program means for allowing a call control entity to serve as a call control entity for said ATM PAG, said LAG and said TAG.

Claim 25 (original): A program product in accordance with Claim 21 further including program means for connecting one or more of ATM PAG, said LAG and said TAG to one or more resource servers, interworking gateways, interworking units, or data termination systems.

Claim 26 (original): A program product in accordance with Claim 21 further including program means for connecting more than one ATM PAG via a shared ATM Access Network.

Claim 27 (original): A program product in accordance with Claim 21 wherein said concatenation means uses proxy signaling.

Claim 28 (original): A program product in accordance with Claim 21 wherein said concatenation means includes an application programming interface.

Claim 29 (original): A program product in accordance with Claim 21 wherein said concatenation means includes an internal interface.

Claim 30 (original): A program product in accordance with Claim 21 further including program means for intercepting signaling messages to and from said ATM endpoints.

Claim 31 (currently amended): An ATM Packet Access Gateway (ATM PAG) for managing an ATM bearer path between ATM endpoints, comprising:

a first ATM bearer connection termination for terminating a first bearer connection with a first ATM endpoint;

a first address associated with said ATM PAG for said first ATM bearer connection;

a second ATM connection termination for terminating a second bearer connection with a second ATM endpoint;

a second address associated with said ATM PAG for said second ATM bearer connection;

a Media Access Gateway (MAG) for controlling the establishment of said first and second bearer connections;

an ATM switch for moving bearer traffic ATM packet payloads over said active ATM bearer path; and

said MAG and said ATM switch being adapted to cooperate in the logical concatenation of said first and second bearer connections and the formation of said active ATM bearer path based on call control instructions received by said MAG from a call control entity.